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Amateur Photographer.

TALKS WITH BEGINNERS.

IX.—TRANSPARENCIES.

WELL-MADE transparency is by all odds the most delicate and charming of photographic productions, quite eclipsing the best photographic print. The transparency has a wider field for decorative effect than is possible to the silver print, whose only place seems to be in the album or the portfolio. Charming window ornaments, effective fire screens, a hundred ornamental uses of the transparency suggest themselves to the mind, and the ability to produce a good positive on glass or other transparent or translucent substances should form part of all photographic education.

As an introduction to the more difficult work of slide making for the optical lantern, the making of transparencies is valuable practice. It is much easier to make a good transparency than a good slide, for the reason that the former being subject to no amplification, minor defects and imperfections are less noticeable.

The few difficulties inseparable from any departure from a beaten track are in this case easily overcome by patient care and practice. The main difficulty is in rightly appreciating the proper length of exposure; on this depends to a very great degree the character of the finished result.

The simplest method of making a transparency is to use a slow gelatine plate, one of the sort which are made expressly for this work. The negatives should be of the best, full of detail and of moderate density, with as little harshness about them as possible. A harsh, dense negative will not give a good transparency.

The negative is carefully dusted off and laid in a deep printing frame on a sheet of clean plate glass, with the image facing the operator. The transparency plate is likewise dusted off and laid down on the negative with its film side in contact with it. The back is then put in place. All this, of course, is done in the dark room. The printing frame is then exposed to the action of light for a length of time varying with the quality of the light, the distance of the frame from the source of light, the density of the negative and the speed of the transparency plate. The source of light may be either diffused daylight or one of the numerous forms of artificial light. For my own part, I prefer the latter, on account of its greater uniformity. I commonly hold the frame about eighteen inches from a gas jet in such a position as to allow the light to pass through the negative on to the sensitive film. At this distance the average time of exposure under a negative of medium density will not vary much from ten or fifteen seconds. A few trials will enable the operator to judge for himself. But he must aim to get the exposure as near right as possible. If the negatives are thin, the frame should be held further from the light, as this has a tendency to increase the contrasts.

You now have a plate impressed with a latent image, which must be brought out by development, precisely as in the case of a plate exposed in the camera.

I do not know that any particular developer can be said to be the best for the development of transparencies; any developer that works cleanly, without staining or fogging, will answer every purpose. Whatever developer is used, it should be judiciously restrained with a few drops of bromide solution, in order to keep the shadows clear.

In my own practice, while I have used nearly all forms of developers, I must confess a preference to Mr. Carbutt's formula with citrate of ammonia.

The plate is first immersed in clean water and its surface brushed with a camel's-hair brush to remove air bells.

The developer is compounded as follows:

A.—Oxalate of potash.....	8 ounces
Water.....	30 "
Citric acid.....	60 grains
Citrate of ammonia solution.....	2 ounces
B.—Sulphate of iron.....	4 "
Water.....	32 "
Sulphuric acid.....	8 drops

C.—Citrate of Ammonia Solution.—Dissolve one ounce of citric acid in five ounces of distilled or boiled and filtered water; add ammonia until a slip of blue litmus paper just loses the red color; then add water until the whole measures eight ounces.

Developer.—Add one ounce of B to two ounces of A and half an ounce of water, and three to six drops of bromide solution (1 to 10).

This solution is poured over the plate and allowed to act until the blacks are very strong and the detail in the high lights shows plainly. Wash well and fix in a freshly made 1 to 5 solution of hyposulphite of soda. The transparency should remain in this bath at least five minutes, to insure perfect fixation.

Wash for half an hour in running water, then immerse for five minutes in a hardening and clearing solution, thus compounded:

Water.....	36 ounces
Powdered alum.....	3 "
Citric acid.....	4 ounce

Then wash for half an hour, and carefully wipe the film with a piece of absorbent cotton, and then rack away to dry in a place free from dust and flies.

When dry the transparency should be varnished. For this purpose, nothing is better than a plain collodion varnish, prepared according to the following formula:

Alcohol.....	4 ounces
Gun-cotton.....	35 grains
Sulphuric ether.....	4 ounces

This is flowed over the surface of the plate like negative varnish, and it dries with a smooth transparent coat.

When intended for window and door decoration, transparencies should be made on plates somewhat larger than the negatives, in order to give a plain margin, which improves the effect. In this case, the negative should be covered with a mat made of a non-actinic paper (red or black enamel paper answers perfectly), having a central opening of the size and shape desired. The plate is laid down on this mask, which protects the margins.

There are many ways of mounting these transparencies. The most common as well as most expensive method is to frame them with etched ground glass in the metal frames which all dealers offer for sale. A more economical method is to bind the transparency and the ground glass with the black gummed paper sold for binding lantern slides.

To make a fire screen, it is only necessary to have the carpenter make an upright frame of the proper size, with rabbeted cross pieces like those of a window frame. The openings between these cross pieces must correspond to the size of the transparencies. The transparencies are put in place and backed with a sheet of ground glass large enough to cover the interior of the frame. A small quarter-round beading is then run around the edges of the ground glass to give a finish and hold the glass in position. If a piece of tinted glass is substituted for the ground glass, some very charming effects can be easily produced. All the glasses should fit rather loosely in the frames, to lessen the danger of breakage from expansion and contraction. Many other suggestions for the decorative use of transparencies might be given, but enough has been said to enable the inventive mind to make the home beautiful with his own camera work.

I have thus far taken it for granted that the transparencies are to be of the same size as the negatives, and in the majority of cases this will hold true. But in many cases a transparency is wanted either larger or smaller than the negative. In this case the transparency must be made in the camera and the necessary enlargement or reduction made. If the camera has a moderately long draw and is fitted with a short focus, wide angle lens, the matter is not difficult. All that is necessary is to place the negative, backed

with a sheet of ground glass, in a printing frame from which the back is removed. The frame is hung in a window and the camera placed on a table immediately in front of it. The size of the image varies according to the distance of the negative from the lens. The focusing is done in the usual way. In order to get a non-reversed positive, the negative must have its film side turned toward the lens. The proper length of exposure will be known after a few experiments. If very much reducing and enlarging is to be done, it will be advisable to purchase or make an enlarging camera, directions for doing which are given in most photographic manuals.

Eastman's Transferyotype Paper is excellent for transparencies. Directions for working this paper have already been given.

Quite recently sheets of thin celluloid have been coated with emulsion for making positives. The celluloid is of two kinds, one having a white surface, and giving the effect of a print on opal or porcelain; the other having the ground-glass effect. The latter variety is the one to be used for transparencies. Celluloid has many advantages over glass. It is light, unbreakable and can be easily cemented to curved surfaces, and the new method will undoubtedly have a wide use. Full working details come with each package, so that it is unnecessary to give them here.

NOTES.

Eikonogen, a New Developing Agent.—New developing agents are becoming as thick as leaves in Vallombrosa. I have tried several of these new agents without detecting any points of superiority to pyro. A new compound has just been put on the market. It is the discovery of Dr. Andresen, of Berlin. Its exact nature is kept a secret, the name given to it, Eikonogen, revealing nothing, as it merely means "an image producer." It is a grayish powder, soluble in water, and seems to have good keeping qualities. As a developer it seems to work with great certainty, clearness and density. The image is a bluish black of good printing quality, and I have developed as many as twenty 5x8 negatives in six ounces of the solution without exhausting its developing powers. Eikonogen works free from stains; indeed, I have found it a grand cleanser, and I think that if anything will supplant pyro it will be "Eiko," as we may call it for brevity.

The New Transparent Film.—The Eastman Company, after a long series of experiments, have seemingly perfected a film which unites transparency with flexibility to such an extent that it can be used in the roll-holder. The basis of the film is a thin, transparent celluloid of great toughness and pliability. I have used a roll of the new film, and I found no greater percentage of imperfections in it than one would expect to find in an equal number of dry plates. No great difficulty will be experienced in working it. The directions accompanying each package are sufficiently explicit to insure good results in careful hands.

Pizzighelli Paper.—This is a platinum paper prepared according to Captain Pizzighelli's formula. Printing with this paper is as simple as with blue paper, and the results are very satisfactory. When the prints are sufficiently printed it is only necessary to throw them into a tray containing acidulated water and then to wash for half an hour in running water. The prints are brownish in tone, have a very artistic appearance, and being in platinum, are permanent.

Hydrochinon as an Intensifier.—I have found that an old hydro solution can be used to blacken the image of a negative whitened with bichloride of mercury. The negative is whitened in the usual way and then well washed. It is then immersed in the hydro solution, where it quickly changes to a rich blue black color of great density.

Salt as a Hypo Eliminator.—Dr. Stolze has discovered that a solution of common salt is a good eliminator of hypo from silver prints. After the prints are fixed the fixing bath is poured off and the tray filled with water. The prints are removed singly to a tray containing a ten per cent solution of salt, where they remain for five minutes. The salt solution is then poured off and the tray filled with water; the operation is repeated with a fresh solution of salt. The prints are then transferred singly to two changes of water, after which they may safely be dried and mounted.

W. H. BURBANK.

